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CIRCULAR No. 229

Illinois Wheat Yields With Nature's  
Fertilizers

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NOTE.—The results reported with no soil treatment in Tables 1 and 2 are the averages of three trials on each field, except at West Salem, where there is only one trial on untreated land, and at Galesburg, where there are four trials with some limestone applied.

TABLE 1.—TEN WHEAT FIELDS IN "EGYPT"

(Bushels per acre, 1918)

| Soil treatment            | En-field field | Ewing field  | New-ton field | Ob-long field | Pana field   | Ra-leigh field | Sparta field | To-le-do field | Union-ville field | West Salem field | Aver-age |
|---------------------------|----------------|--------------|---------------|---------------|--------------|----------------|--------------|----------------|-------------------|------------------|----------|
| Began Full <sup>1</sup> . | 1913<br>1915   | 1910<br>1914 | 1912<br>1913  | 1912<br>1914  | 1913<br>1915 | 1910<br>1914   | 1916<br>1920 | 1913<br>1915   | 1911<br>1915      | 1913<br>1914     |          |
| None.                     | 8.4            | 3.1          | .1            | 8.8           | 7.7          | 10.9           | 4.7          | 6.4            | 12.2              | .0               | 6.2      |
| M....                     | 6.3            | 5.4          | .3            | 15.8          | 3.2          | 14.6           | 7.7          | 7.8            | 14.2              | 4.5 <sup>2</sup> | 8.0      |
| ML...                     | 12.3           | 16.5         | 9.8           | 22.7          | 6.2          | 25.9           | 12.3         | 14.2           | 23.3              | 8.1              | 15.1     |
| MLP.                      | 17.0           | 21.1         | 17.7          | 33.4          | 11.2         | 29.3           | 15.3         | 16.2           | 24.9              | 11.0             | 19.7     |
| R.....                    | 9.6            | 1.5          | .3            | 13.2          | 10.4         | 12.8           | 5.2          | 7.4            | 13.3              | 7.3 <sup>2</sup> | 8.1      |
| RL...                     | 19.3           | 12.9         | 10.8          | 30.5          | 14.5         | 22.3           | 13.2         | 14.6           | 22.5              | 7.2              | 16.8     |
| RLP.                      | 22.9           | 18.5         | 16.7          | 36.1          | 19.7         | 27.3           | 13.0         | 10.2           | 26.2              | 12.5             | 20.3     |
| RLPK                      | 23.9           | 21.4         | 17.7          | 38.8          | 15.8         | 24.9           | 16.7         | 16.7           | 26.1              | 18.2             | 22.0     |

<sup>1</sup>After soil treatment is begun about one crop rotation is usually required to get the full treatment underway.

<sup>2</sup>Some limestone also was applied to these two plots at West Salem.

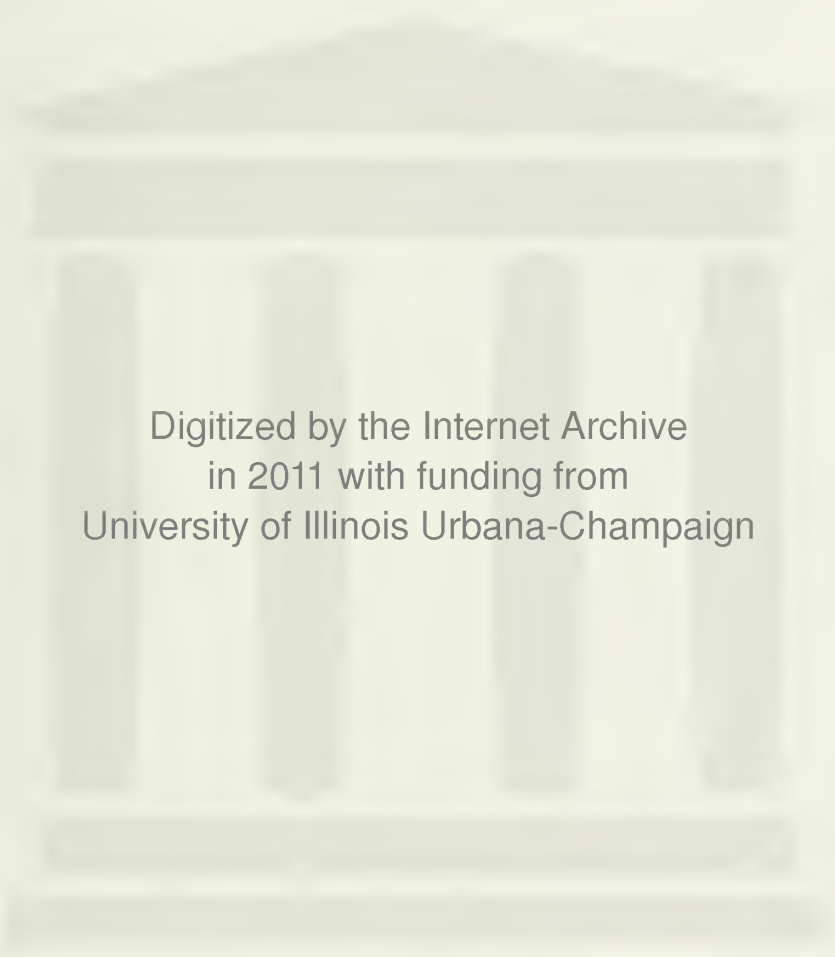
TABLE 2.—FOURTEEN WHEAT FIELDS IN THE ILLINOIS CORN BELT

(Bushels per acre, 1918)

| Soil treatment | Ale-do field | Carlin-ville field | Car-thage field | Clay-ton field | Gales-burg field | Harts-burg field | Jo-liet field | Kewa-nee field | La-Moille field | Leba-non field | Mi-nonk field | Mt. Morris field | Si-dell field | Spring Valley field | Av-erage |
|----------------|--------------|--------------------|-----------------|----------------|------------------|------------------|---------------|----------------|-----------------|----------------|---------------|------------------|---------------|---------------------|----------|
| Began.....     | 1911         | 1910               | 1912            | 1912           | 1904             | 1912             | 1914          | 1915           | 1911            | 1911           | 1911          | 1911             | 1913          | 1915                |          |
| Full.....      | 1915         | 1911               | 1915            | 1915           | 1908             | 1915             | 1915          | 1919           | 1915            | 1914           | 1915          | 1915             | 1915          | 1919                |          |
| None.....      | 31.6         | 32.6               | 26.8            | 30.6           | 25.7             | 34.5             | 20.9          | 29.2           | 32.6            | 32.5           | 33.9          | 16.4             | 10.8          | 51.1                | 29.2     |
| M.....         | 32.2         | 36.3               | 28.6            | 30.2           | 38.2             | 37.3             | 21.5          | 34.6           | 40.8            | 26.4           | 45.0          | 22.5             | 13.2          | 46.0                | 32.3     |
| ML.....        | 34.5         | 48.0               | 37.6            | 42.8           | 38.2             | 39.5             | 31.0          | 26.7           | 43.1            | 28.6           | 33.7          | 25.6             | 12.2          | 51.0                | 35.5     |
| MLP.....       | 39.2         | 48.5               | 42.0            | 47.0           | 44.3             | 44.2             | 39.9          | 32.5           | 42.3            | 37.0           | 34.2          | 28.4             | 19.2          | 50.3                | 39.2     |
| R.....         | 35.7         | 34.8               | 35.2            | 33.7           | 35.2             | 37.3             | 28.8          | 41.0           | 52.8            | 33.2           | 34.8          | 20.9             | 9.2           | 55.0                | 34.8     |
| RL.....        | 38.6         | 43.4               | 39.1            | 45.5           | 32.6             | 34.1             | 27.0          | 40.1           | 53.0            | 37.8           | 28.2          | 24.0             | 14.3          | 56.3                | 36.7     |
| RLP.....       | 43.7         | 47.3               | 44.8            | 50.8           | 49.5             | 42.5             | 35.4          | 46.0           | 53.7            | 41.9           | 32.0          | 25.8             | 19.8          | 57.2                | 42.2     |
| RLPK.....      | 40.7         | 50.6               | 45.9            | 47.6           | 45.8             | 40.5             | 39.9          | 50.8           | 55.3            | 42.2           | 31.0          | 26.2             | 18.4          | 49.7                | 41.8     |

Some limestone applied.

**NOTES.**—These twenty-four experiment fields are operated by the University of Illinois. The rotation most commonly practiced is corn, oats, clover, and wheat. The farm manure (**M**) is usually applied for corn in proportion to previous crop yields. The crop residues (**R**) returned to the soil include corn stalks, straw, clover chaff, and cover crops (as sweet clover seeded on the wheat and plowed under before planting corn). Yearly acre-rates of application are 1,000 pounds of limestone (**L**), 500 pounds of fine-ground natural rock phosphate (**P**), and 200 pounds of kainit (**K**); or 4,000, 2,000, and 800 pounds, respectively, every four years. (The initial application of limestone is usually 4 tons per acre, and after four or five crop rotations the phosphate may be reduced to 200 pounds a year.)



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